

# QUEST

ADVENTURES IN THE WORLD OF SCIENCE

## INTO THE JUNGLE

# 17

**MODEL:  
JUNGLE LIFE**



# PLUS

**GIANT  
ORANG-UTAN POSTER**

**FACT FILES ON:**

- ▶ **The Greenhouse Effect**
- ▶ **Photosynthesis**
- ▶ **Parasitic plants**
- ▶ **Logging hardwoods**
- ▶ **Deforestation**
- ▶ **Nature's gene bank**
- ▶ **Living laboratory**



**MAKE A BOTTLE GARDEN**



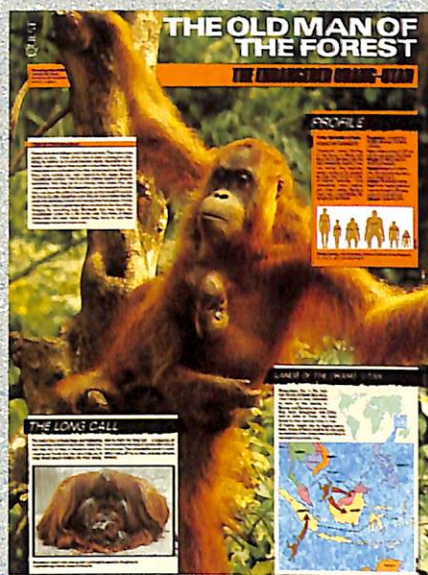
# INSIDE THIS PACK

## FACT FILES

- ▶ The Heat Trap ▶ Soil structure
- ▶ Danger signs ▶ Charting unknown territory ▶ Creating disease-resistant crops ▶ The nutrient cycle
- ▶ Tapping latex ▶ Logging timber



**MODEL** Jungle life



**POSTER** The 'Old man of the forest'

## PROJECT SHEET

- Make a terrarium
- See how leaves breathe
- Watch the process of decay



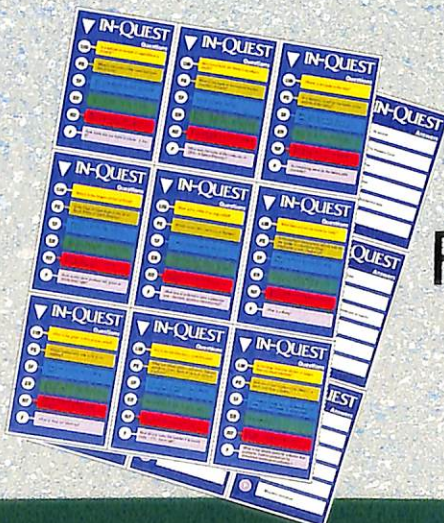
## COMING IN QUEST 18 CREATIVE FORCES



More Q + A cards for your board game

## FACT FILES INCLUDE:

- ▶ Hi-tech sex
- ▶ Hybrid plants
- ▶ Test-tube babies
- ▶ Decoding DNA
- ▶ Genetic engineering
- ▶ The attraction of atoms



**POSTER** Seeds and spores

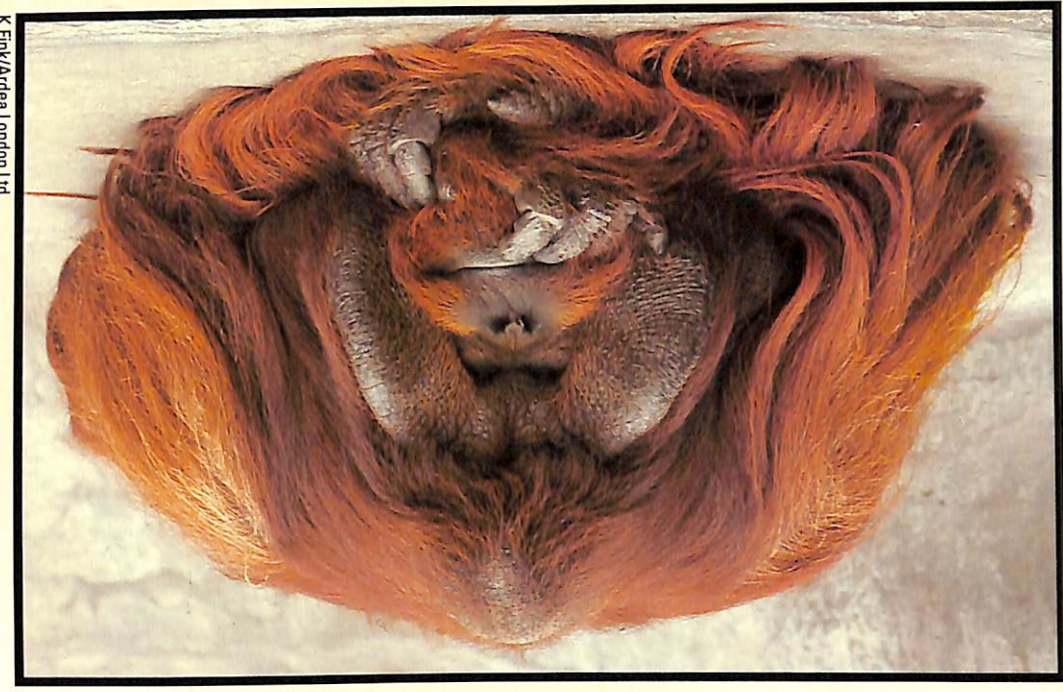
**PLUS** DataQuest update

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*In a zoo an adult male orang-utan is forced to squat on the ground – something it rarely does in the wild.*



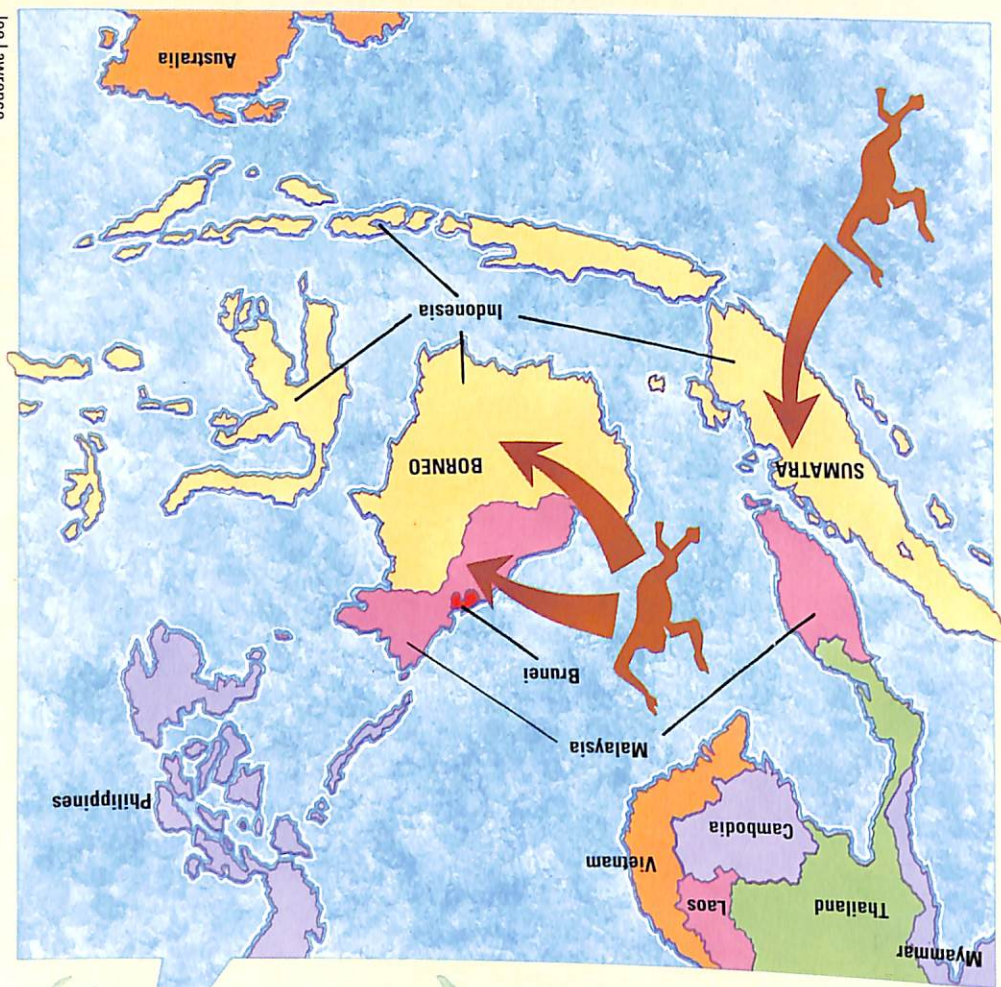
The male's face is made huge and frightening to make his 'long call' – a sequence of loud roars that die away to groans after one or two minutes. The call probably serves to warn other males off his territory and also attracts large throat pouch enables the male orang-females.

## THE LONG CALL

K Fink/Ardea London Ltd

## LANDS OF THE ORANG-UTAN

Orang-utans live in the lush rain forests of South-East Asia. Their range is now restricted to parts of the islands of Borneo and Sumatra, but once they lived throughout Indo-China and in parts of China. The main threat to their survival today is loss of habitat, largely due to logging operations. Areas of forest need to be set aside as reserves if the orang-utan is to have a secure future outside zoos.



Joe Lawrence



# THE OLD MAN OF THE FOREST

An orang-utan mother carries her infant around until she gives birth to another.

## THE ENDANGERED ORANG-UTAN

### ORANG ORPHANAGES

Orang-utans are intelligent and friendly animals. They were once popular as pets – it was all too easy to tame a young one after killing its mother, as it would become totally dependent on its human captor. Keeping them as pets is now illegal, and dozens of orang-utans are confiscated from their owners each year. Many of these tame animals are now returned to the jungle through 'rehabilitation centres'. First of all the animals spend a period in quarantine; then they go to a nursery area where they are completely looked after. But before they can be returned to the wild they must learn the skills of survival, just as they would if raised in the forest. So after about four years they are taken further into the jungle and gradually coaxed into looking after themselves. Among other things, they are given less attractive food so that they will go foraging for something tasty. Eventually they may leave the rehabilitation centre for a life in the wild. But many of these orang-utans are seen again, when they return to visit their 'orphanage' home from time to time.

### PROFILE

#### THE ORANG-UTAN PONGO PYGMAEUS

'Orang-utan' means 'old man of the forest' in Malay and these forest-dwelling apes do look remarkably human. They live among the branches, rarely coming to the ground. At night they sleep in nests of twisted branches. Adult orang-utans come together only when mating. Mothers have sole responsibility for bringing up the infants.

**Populations:** (estimated) 75,000 in Borneo; 15,000 in Sumatra

**Size:** males grow up to 137 cm tall; females up to 115 cm tall

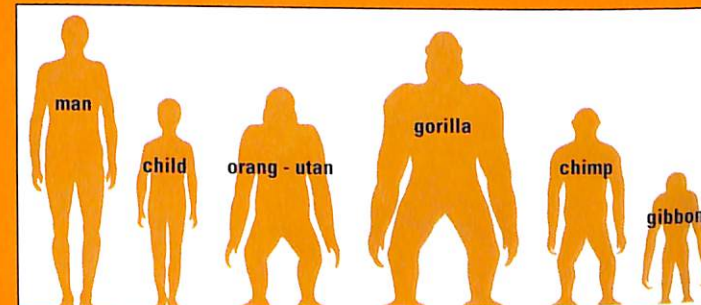
**Weight:** 60–90 kg (males); 40–50 kg (females)

**Appearance:** long reddish hair; Sumatran orang-utans have longer faces

**Habitat:** the forest canopy

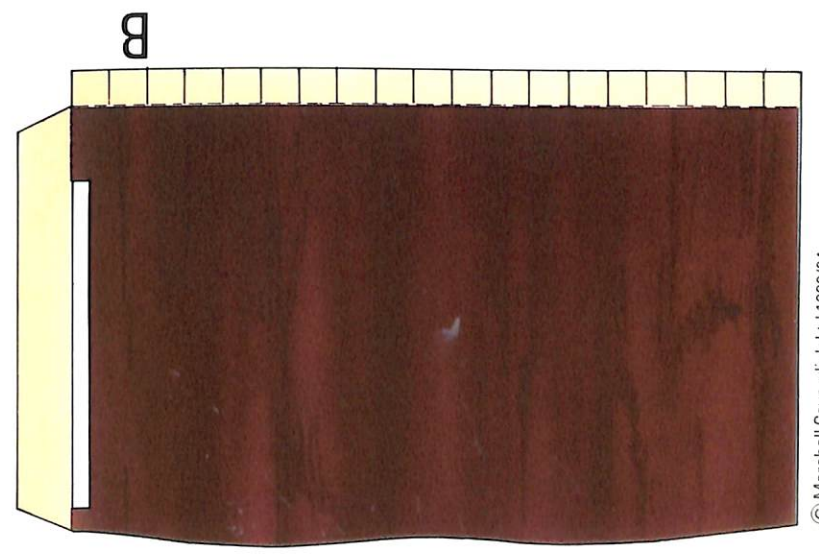
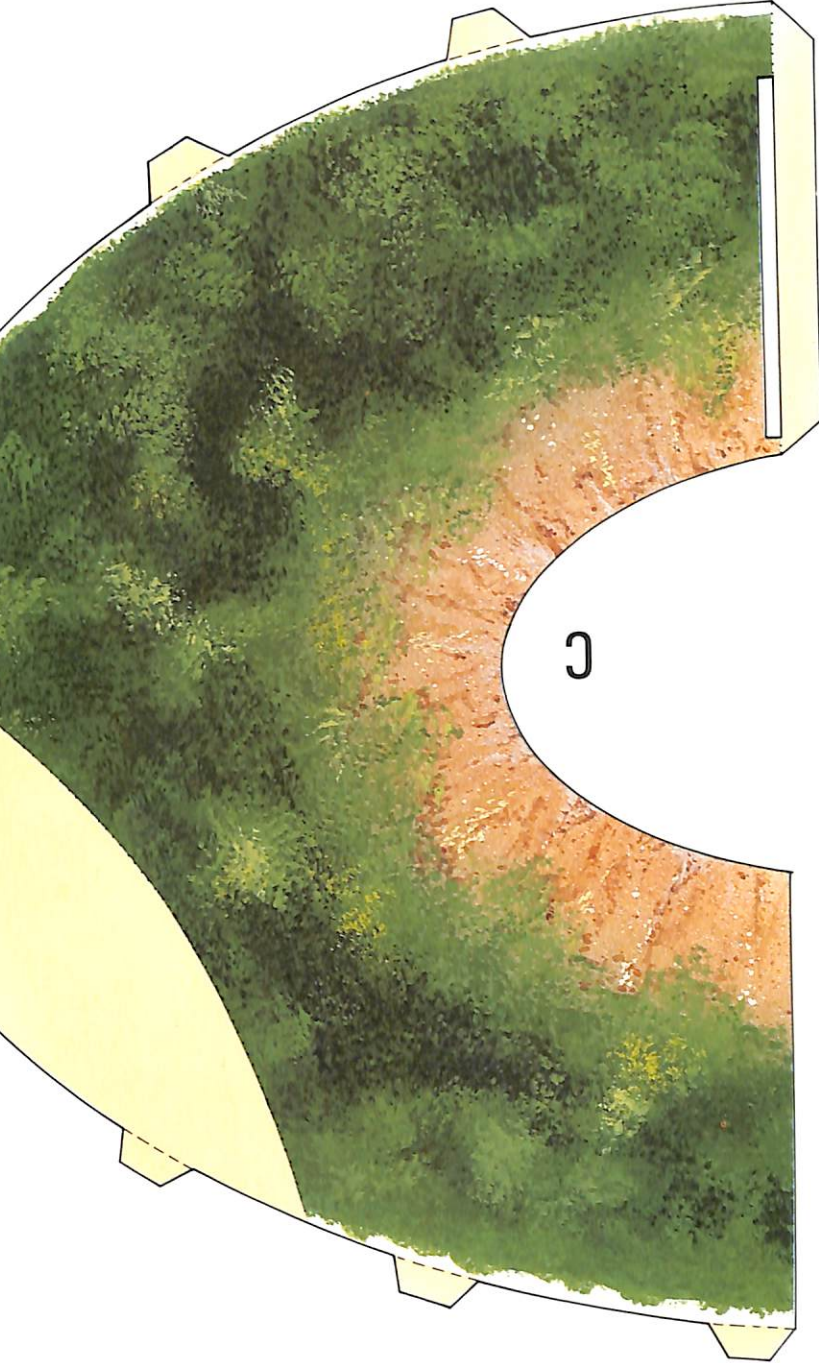
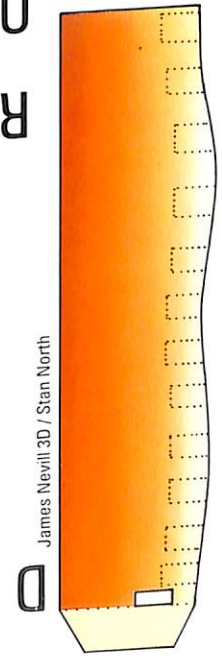
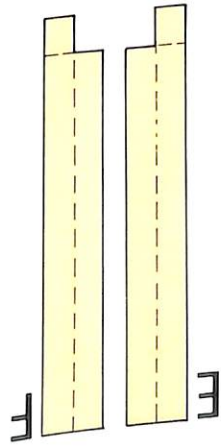
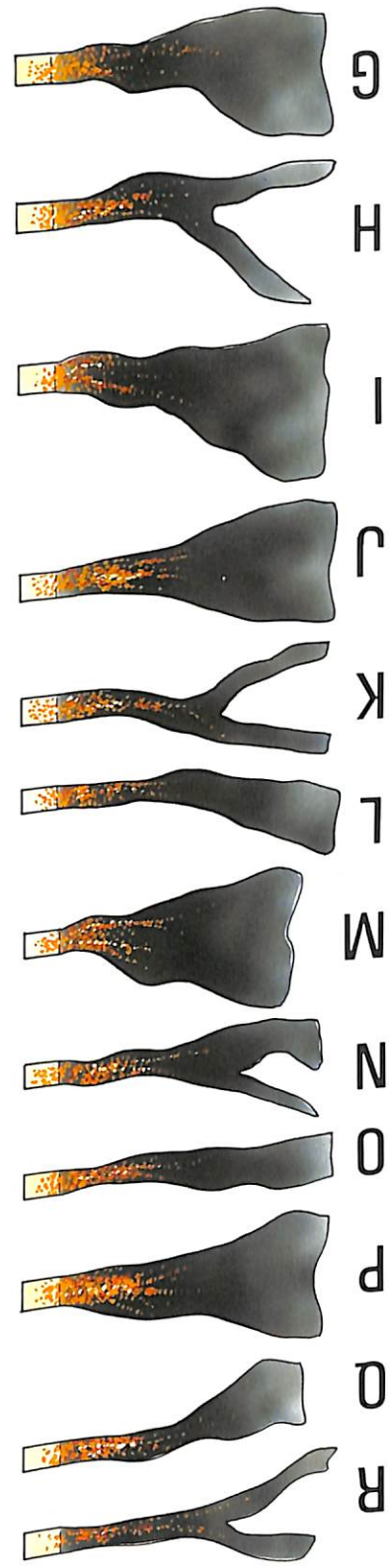
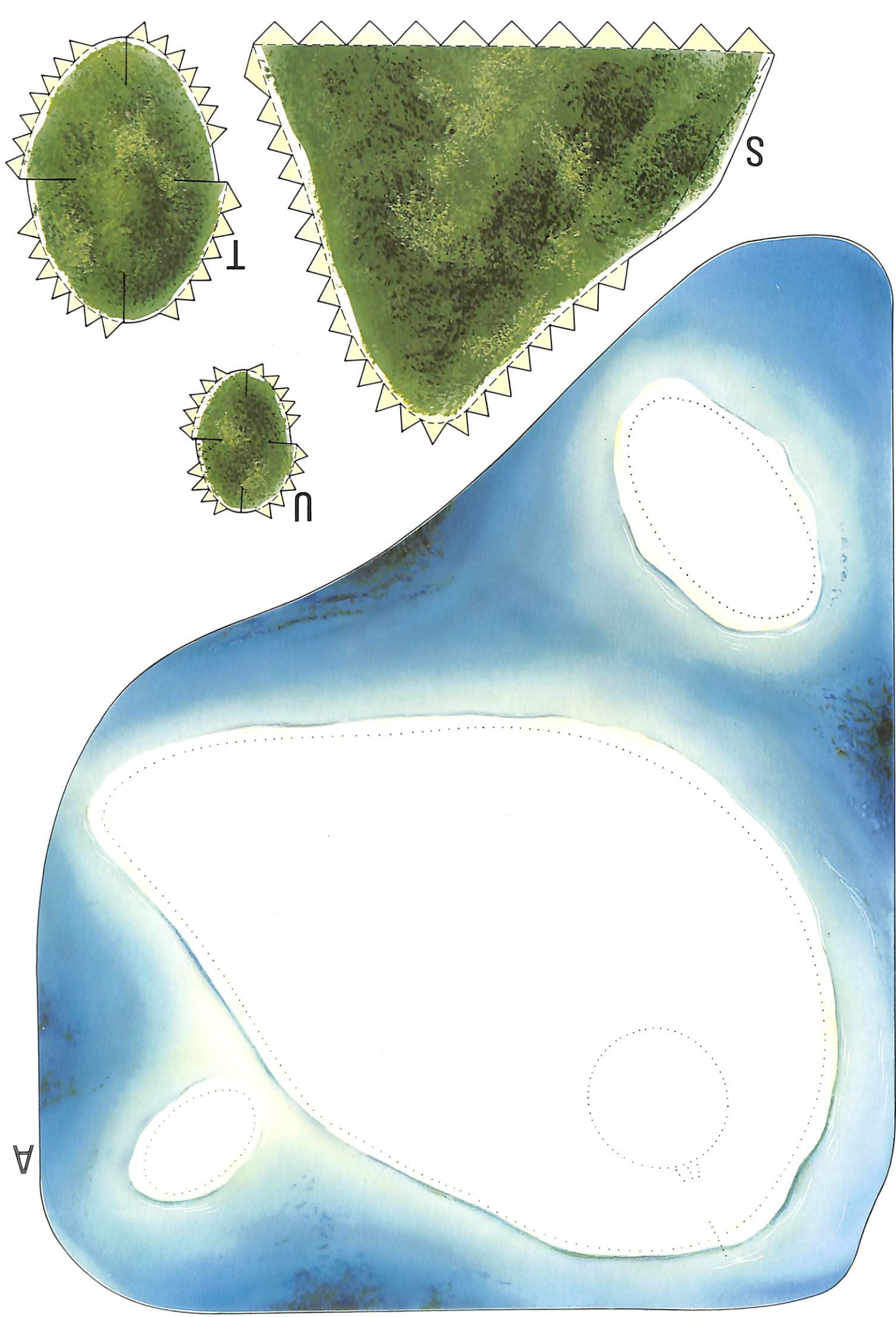
**Diet:** fruits, leaves, bark and insects; occasionally eggs and even small animals

**Lifespan:** up to 40 years



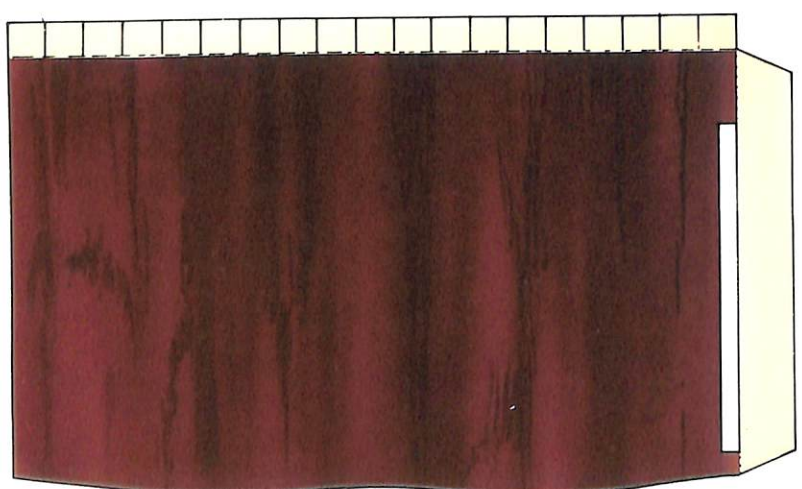
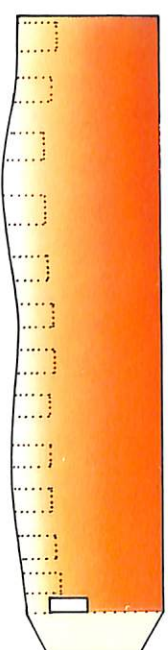
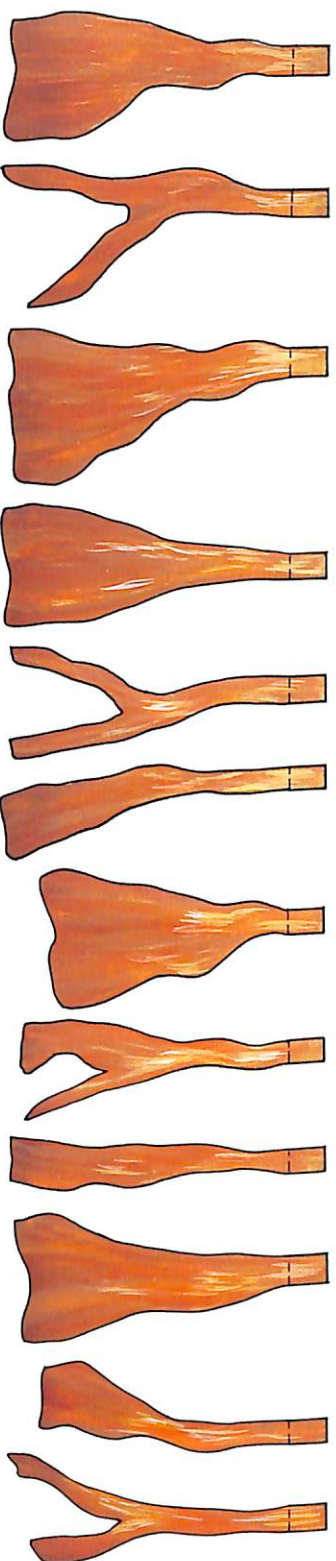
Orang-utans, chimpanzees, gibbons and gorillas make up the four major groups of apes.





**ERUPTING VOLCANO**









# PROJECTS

## INTO THE JUNGLE

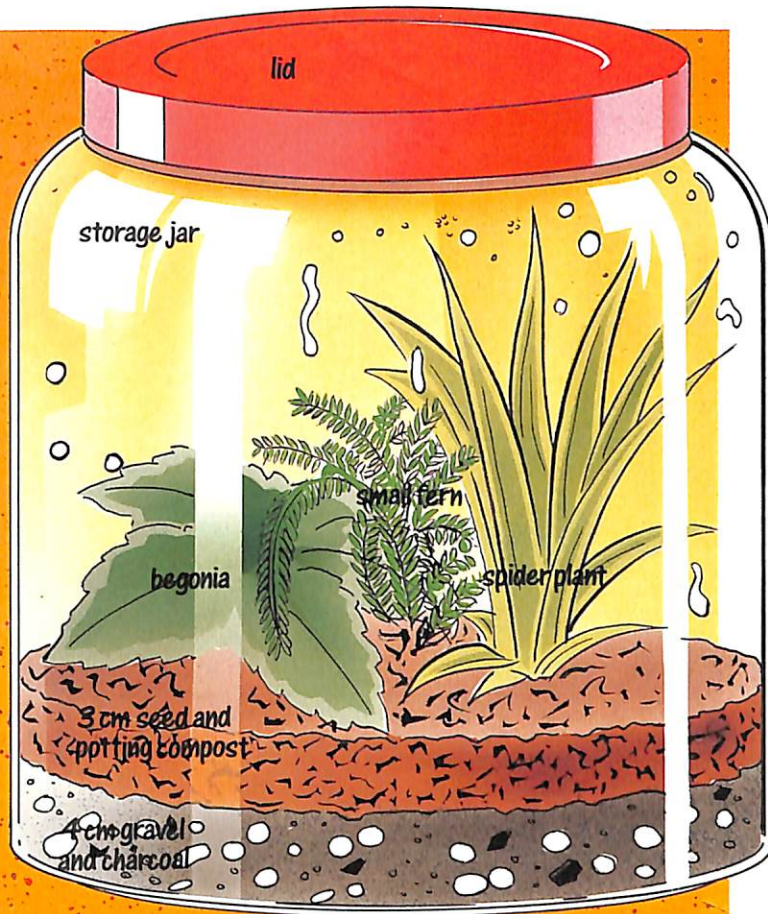
- Grow a selection of plants in a sealed container without watering them.
- All plants breathe 'out' water through their leaves. This is usually invisible – find out how you can see it.
- Discover what happens to the remains of dead plants when they are left to rot.

### BOTTLE GARDEN

1 2 3 4 5

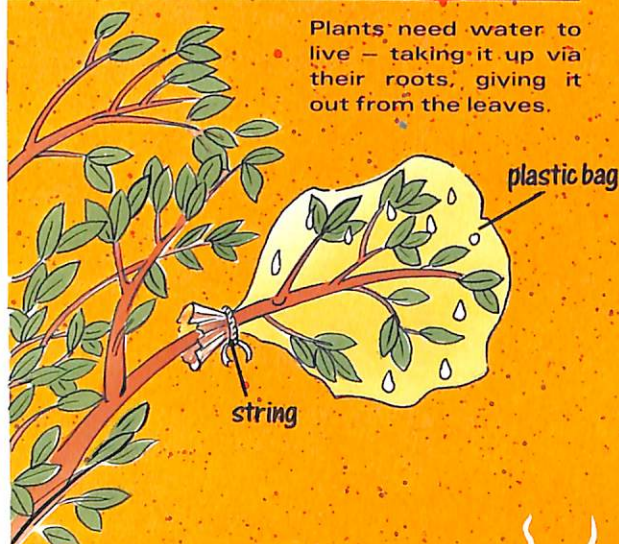
Some plants can grow for many years inside a sealed glass container. Water evaporates from the soil and leaves, condenses on the inside of the glass and trickles back into the soil.

Take a glass container with a lid, such as a large sweet jar. Thoroughly wash and dry it then place in it a layer of gravel, small stones and charcoal, and seed and cutting compost as shown. Plant small ferns, mosses and grasses: Tradescantia, Begonias and spider plants also grow well. Use a plant spray to water the plants thoroughly, seal the container and put the bottle in a light place. If the glass becomes too wet, take the lid off for a while. If droplets do not condense on the glass, water some more. When the balance is right you can leave the bottle.



### BREATHING WATER

1 2 3 4 5



Plants need water to live – taking it up via their roots, giving it out from the leaves.

Put a plastic bag over a small branch of leaves on a bush or tree in a sunny place and tie it on. After one or two hot days, you will see small beads of water on the inside of the bag and quite a lot of water will be collected.

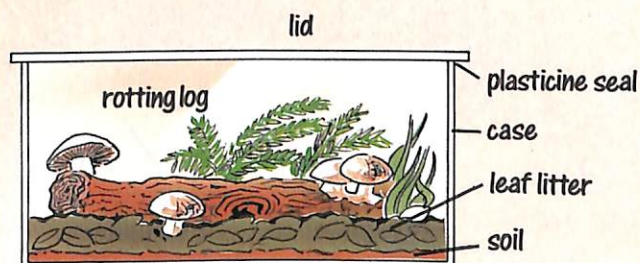


### A ROTTING HABITAT

1 2 3 4 5

Many animals and plants live in a habitat of dead leaves and wood, feeding off the nutrients it contains. This process is called re-cycling.

Take an old aquarium or a large washing-up bowl and find a sheet of glass or perspex to cover it. Sprinkle the base with soil, followed by a layer at least 1 cm thick of shredded, rotting leaves. Place a rotting log or branch inside, water it thoroughly with a plant sprayer, then cover with the lid, sealing it in place with Plasticine. If any ants were interred with the log, feed with fruit, damp bread or jam. Keep the habitat for three or four weeks, noting your observations as fungi, mosses, grasses and small ferns appear.



### PROJECT INFORMATION

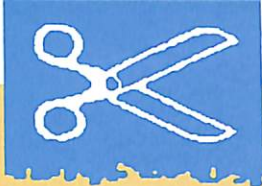
1 2 3 4 5

#### WARNING!

Each **QUEST** project has its own difficulty rating: 1 very simple, 2 simple, 3 intermediate, 4 advanced, 5 complicated.

Parents should ensure that experiments involving sharp tools, water and electricity are supervised. The publisher can accept no responsibility for injury.





# MODEL

## ASSEMBLY INSTRUCTIONS

### You will need

Scissors • Ruler • Craft knife • Glue

Before cutting out the pieces, score along all broken lines with a blunt edge and ruler to make folding and gluing easier. Study the ASSEMBLY DIAGRAM to see how the pieces fit together, and use dotted lines as a guide for positioning.

### To make up Jungle floor

**1** Cut out base **A**. Make two centre folds to raise the rear section of the base (see ASSEMBLY DIAGRAM). Fold the three flaps to shape to form three legs and glue each one in position to underside edge of base (see Fig 1).

### Jungle vegetation

**1** Cut out trees **B**. Fold tab back and glue in position on base **A**.

**2** Cut out **B1**. Fold tabs to side and glue smaller tab in position on base **A** and larger tab in position on trees **B** (see Fig. 2).

**3** Cut out trees **C**. Fold tab back and glue in position on base **A**.

**4** Cut out **C1**. Fold tabs to side and glue smaller tab in position on base **A** and larger tab in position on trees **C**.

**5** Cut out trees **D** and **E**. Use a craft knife to cut out areas indicated. Fold trunk tabs back and glue each piece in position on base **A**.

**6** Cut out trees **F** and **G**. Fold tabs back and glue each piece in position on base **A**.

**7** To hold trees in position, glue tab at one side of trees **E** on to the back of trees **C** and tab at other side of **E** on to the front of trees **F**: glue tab at side of trees **F** on to the front of trees **G**: glue tab at side of trees **D** on to back of trees **B** (see ASSEMBLY DIAGRAM).

**8** Cut out three trees **H**. Fold trunk tabs down and glue each piece on to jungle floor, rear of base **A**.

### Jungle creatures

**1** Cut out jaguarondi **I** (cat, but not related to the jaguar), jaguar **J**, collared peccary **L** (a kind of wild pig), blind worm snake **R**. Fold tabs on each piece down and glue amongst vegetation on the jungle floor, rear of base **A**.

**2** Cut out four capybaras **N** (semi-aquatic rodents), two black caymans **S** (relatives of alligator family), four scarlet ibis **T** (same order as herons and flamingoes). Fold tabs down, curve the tails of the black caymans to balance weight, and glue each piece on mud bank, front of base **A**.

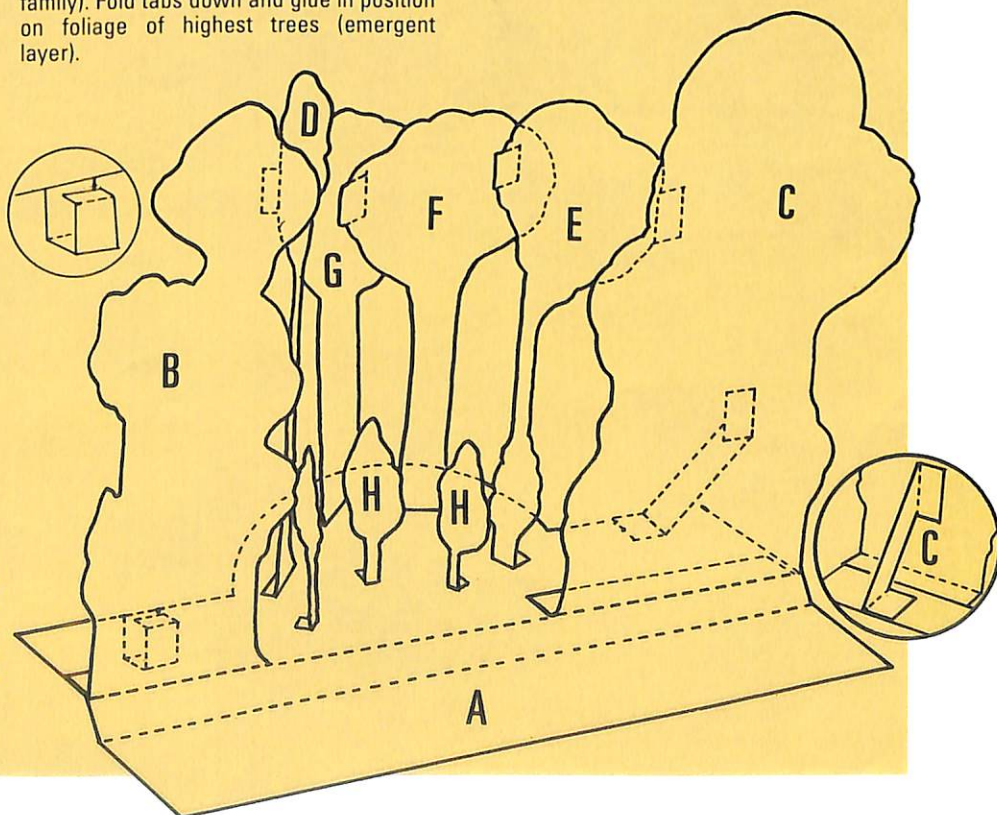
**3** Cut out four common woolly monkeys **K**, kinkajou **M** (a member of the raccoon



family), two-toed sloth **O**, three-toed sloth **P**. Fold tabs on each piece down and glue in position amongst foliage of lower and mid-level trees (main canopy layer).

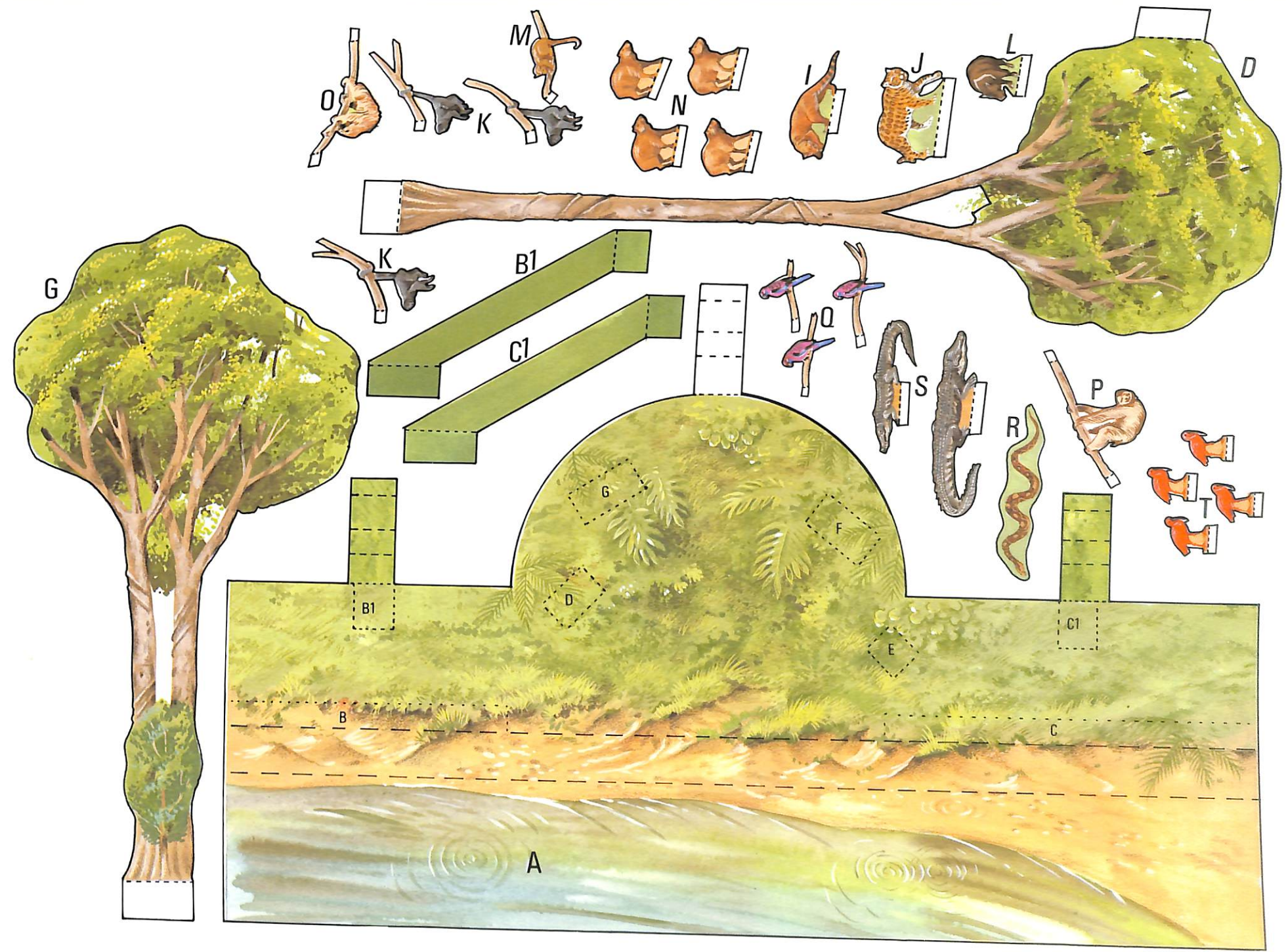
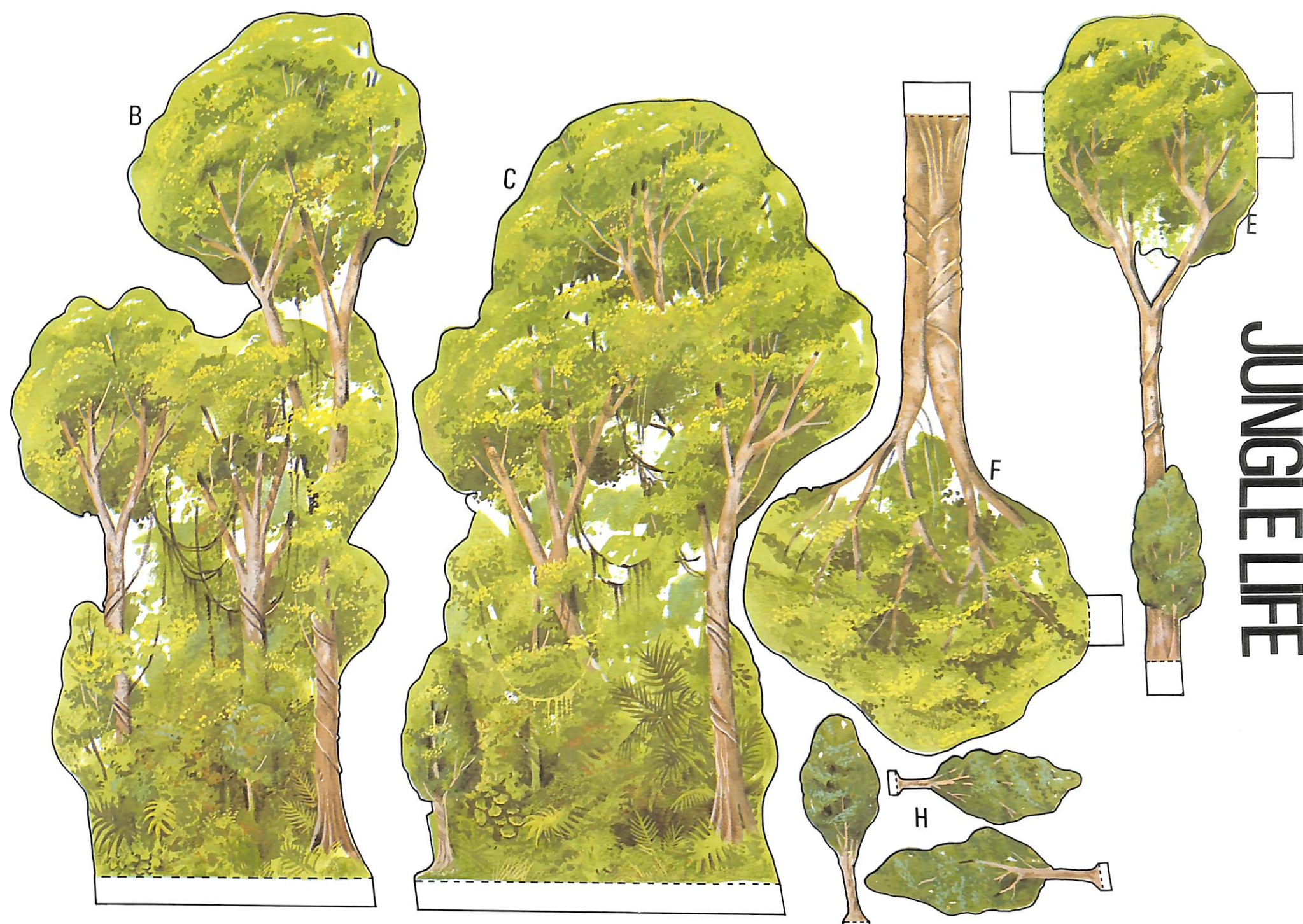
**4** Cut out three crimson rosella **Q** (parrot family). Fold tabs down and glue in position on foliage of highest trees (emergent layer).

Place the completed model on a table or stand and enjoy the exotic jungle panorama.

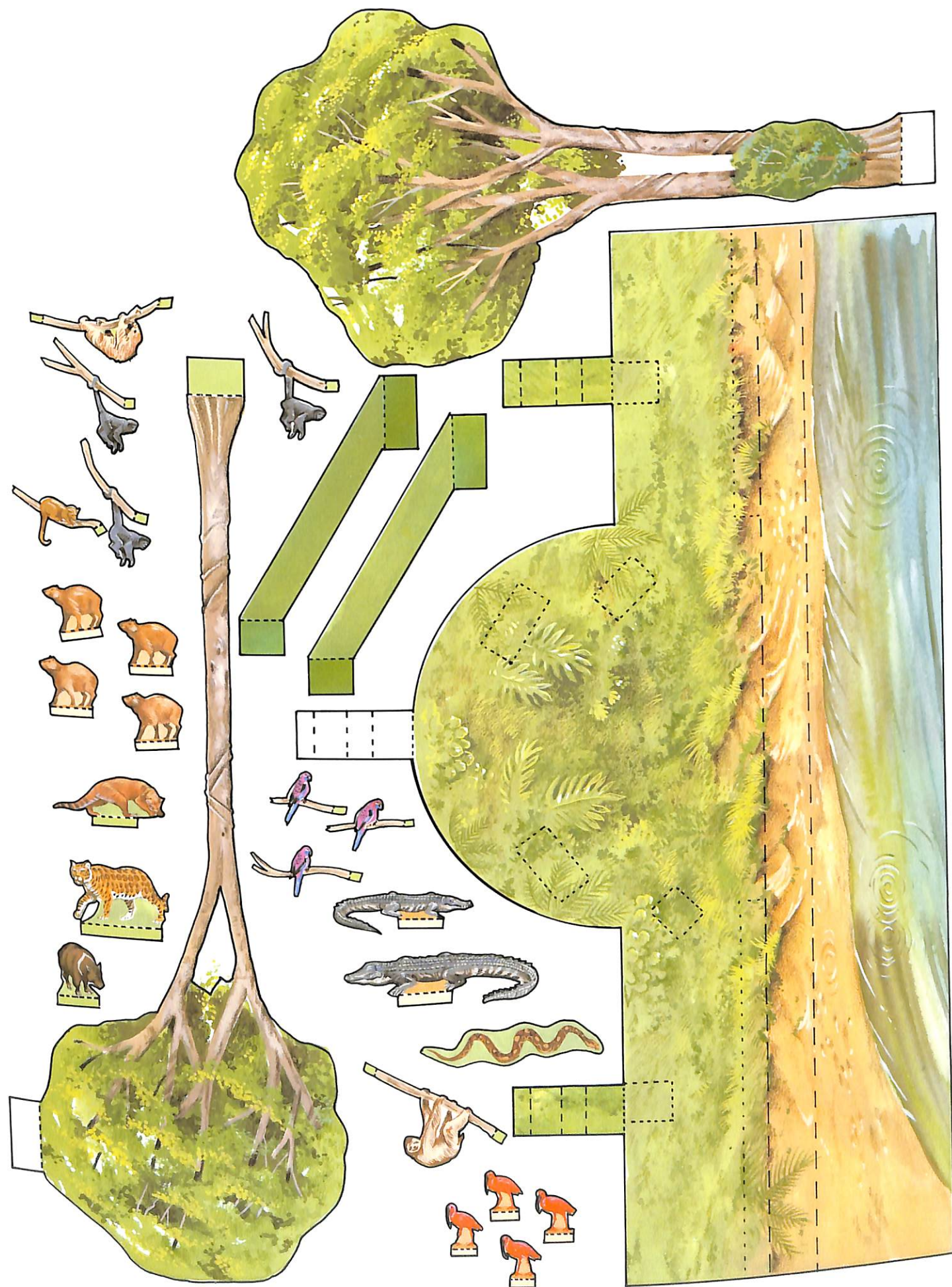
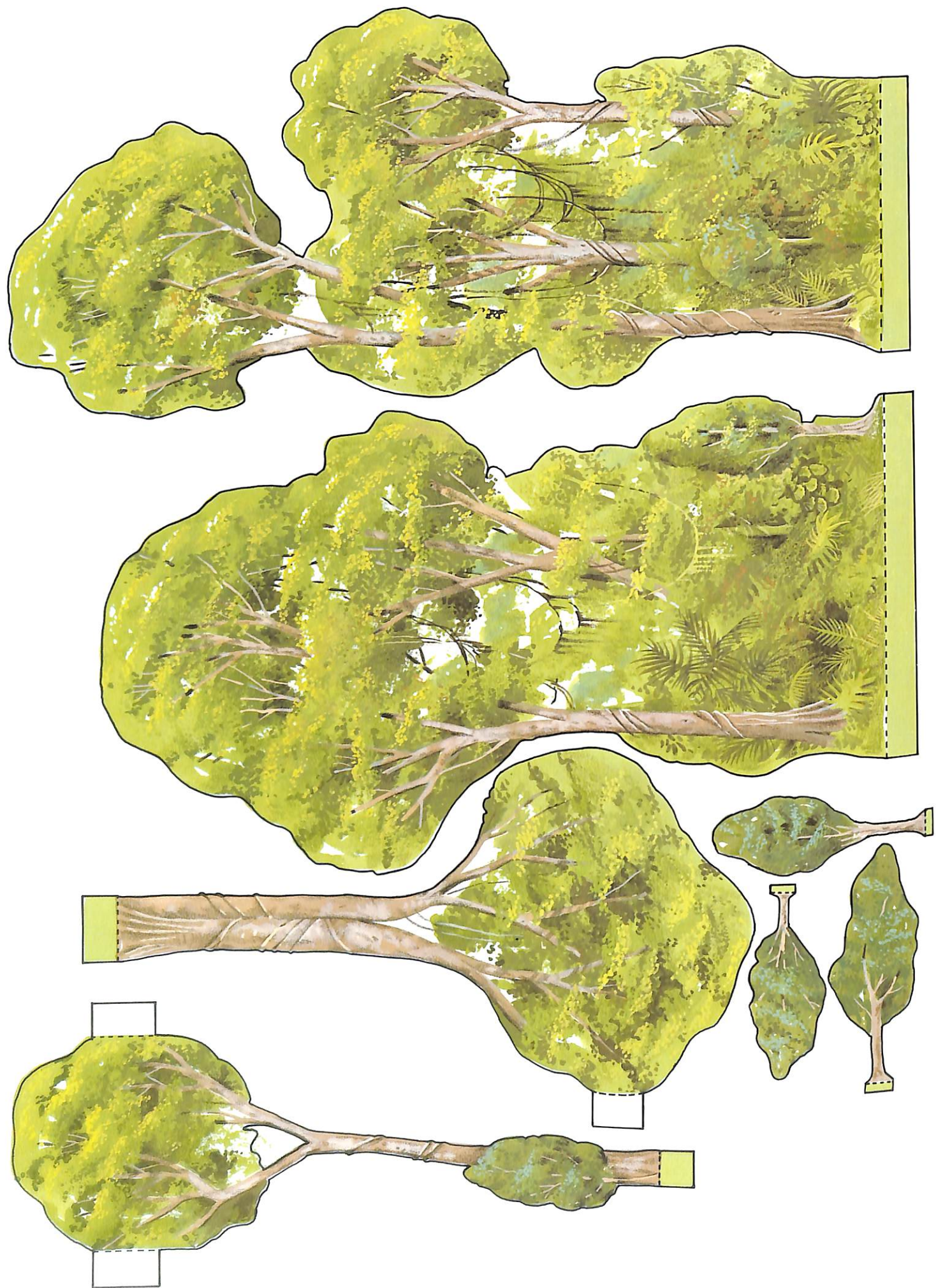




# JUNGLE LIFE









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